#### **REMARKS**

Claims 1, 3, 6, 8, 28, 29, 30 and 31 have been amended. Claims 16 and 33-35 have been cancelled, and claims 36-37 has been newly added. As explained below, all claim amendments are supported by the specification and there has been no introduction of new matter.

Reconsideration of the Application is requested in view of the comments and amendments herein.

### I. The Office Action

Claims 6 and 25 are objected to for informalities.

Claim 33 is objected to as being in improper form.

Claims 30 and 34 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 3, 5, 6, 8, 9, 13, 14 and 18 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,788,781 to Van Slyke as evidenced by 5,215,596 to Van Slyke.

Claims 2, 4 and 10-12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,788,781 to Van Slyke as evidenced by 5,215,596 to Van Slyke.

Claims 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,788,781 to Van Slyke as evidenced by 5,215,596 to Van Slyke as applied to claim 1 above, and further in view of U.S. Patent No. 4,645,608 to Rayborn as evidenced by U.S. Patent No. 4,137,044 to Flower.

Claims 17, 28-32, and 34 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,788,781 to Van Slyke as evidenced by 5,215,596 to Van Slyke as applied to claim 1 above, and further in view of U.S. Patent No. 4,599,117 to Luxemburg.

Claims 15, 16 and 19-27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,788,781 to Van Slyke as evidenced by 5,215,596 to Van Slyke as applied to claim 1 above, and further in view of U.S. Pat. Pub. No. 2002/0128374 to Eagland et al.

### II. Claim Objections

Claim 6 is objected to for the improperly reflecting a ratio. The Examiner states that claim 6 recites "the ratio...is at least 10 and less than 200," but should preferably recite "is at

least 10:1 and is less than 200:1" to reflect a ratio. Claim 6 has been amended to reflect the preferred ratio form.

Claim 25 is objected to for reciting "A method according to any claim 19" rather than "...according to claim 19." Applicant respectfully asserts that such informality was corrected in the Preliminary Amendment filed along with the application on March 31, 2006.

Claim 33 is objected to as being in improper form for reciting "in any" instead of in any one of," and also for having antecedency problems under 35 U.S.C. 112, second paragraph. Claim 33 has been cancelled herein.

Accordingly, the above objections should be withdrawn.

## III. Rejection of Claims 30 and 34 Under 35 U.S.C. 112, Second Paragraph

Claims 30 and 34 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With regard to claim 30, the Examiner asserts that there is insufficient antecedent basis for the limitation "further water." Claim 30 has been amended to recite "water," rather than "further water." Claim 34 has been cancelled. Accordingly, the rejections should be withdrawn.

### IV. The Claims Distinguish Patentably Over the References

Independent claim 1 calls for a method of cleaning a contaminated material that comprises a solid material, which is contaminated with a hydrocarbon. The method comprises the steps of: (A) contacting the contaminated material with a surface active agent thereby to form a first mixture including the contaminated material and the surface active agent; (B) contacting the first mixture with a carrier formulation to prepare a second mixture, wherein the carrier formulation is arranged to interact with at least one of the surface active agent and the hydrocarbon, wherein the carrier formulation includes a carrier that comprises a first polymeric material including hydroxy groups pendent from a polymeric chain; and (C) separating the solid material which is separated contains a lower level of the hydrocarbon compared to that in the contaminated material contacted in step (A). The amendments to claim 1 are based on now cancelled claim 16, which previously depended from claim 1.

Van Slyke teaches a method of cleaning a contaminated material. The Examiner states that a step of this cleaning includes rinsing the article with an aqueous fluid (water) as a carrier formulation to create a water external emulsion. The Examiner concedes, however, that Van Slyke fails to disclose that the carrier is a first polymeric material that includes a multiplicity of cationic moieties and hydroxyl groups pendant from a polymeric chain, as is presently claimed. The amendment to claim 1, regarding the composition of the carrier formulation, was previously part of now cancelled claim 16. In the Office Action of May 12, 2009, the Examiner rejected claim 16 on the grounds that Eagland discloses a polymeric material that includes a multiplicity of cationic moieties and hydroxyl groups that are pendant from a polymeric chain and that the reaction mixture can be contacted with oil to emulsify and isolate the oil. According to the Examiner, it would be obvious to one of ordinary skill in the art to modify the method taught by Van Slyke to include the polymeric material taught by Eagland since Eagland teaches that the polymeric material can be contacted with oil to emulsify the oil page 3, paragraph [0039]. Applicant respectfully traverses.

Applicant asserts that the Eagland envisages emulsifying oil, not a contaminated material that may include oil. Furthermore, paragraph [0039] of Eagland recites that the polymeric material forms a colloid or a gel, as illustrated in Examples 2 and 3, and that "the resultant gel holds the oil in a solid matrix." As taught on page 7, lines 20-23 of the subject disclosure, forming a gel between the first and second polymeric materials is <u>undesirable</u> and to be avoided. A person skilled in the art would not be motivated to modify the method taught in Van Slyke with the material taught by Eagland, since Eagland produces a solid matrix and, consequently, even if the combination was made, the result would be a mass of solid material. For example, when used on oil covered drill cuttings, the result would be a mass of gel and drill cuttings which may contain oil. The combination would in no way lead to the cleaning of the contaminated material, but would rather produce a very large, useless mass. In fact, Applicant's disclosure specifically teaches away from such combination, since it would result in either a colloid or gel.

With regard to claims 17 and 28-32, in addition to that stated above with reference to independent claim 1, Applicant respectfully asserts that a person skilled in the art would not combine the teaching of Van Slyke with that of Luxemburg and arrive at the claimed subject matter.

Particularly, Van Slyke is directed to a specific method for cleaning an oil-coated

substrate, and uses complex cleaning compositions to achieve such cleaning. Luxemburg is concerned with a quite different methodology for de-contaminating oil contaminated particulate solids. The technology involves use of a polymer that is contacted with contaminated material as described in Example 1. Applicant submits that the general statements in Luxemburg speculate on polymers that may be useful as comprising water-soluble polyacrylamides of specialized types and several examples are given including poly(ethyleneoxide) resins (col. 4, line 66-col. 5, line 4), poly(acrylic) acid (col. 2, line 62), and other water soluble polymers. Polyvinylalcohol is speculated as being particularly useful (col. 5, line 5). In the examples at col. 7 and 8, only a specific polyacrylamide is described, and none of the other materials are specifically used.

Applicant asserts that one skilled in the art would have no appreciation that such materials would work and/or if special conditions or processes need to be applied. Therefore, it would not be obvious to combine the teaching of Van Slyke with arbitrarily selected features from Luxemburg and arrive at the claimed subject matter of the present invention. Van Slyke does not provide any specific details on the polyvinylalcohol and, therefore, cannot provide all of the features of claim 1, as regards the polyvinylalcohol. Van Slyke and Luxemburg describe different, mutually exclusive processes and Luxemburg cannot be regarded as solving any particular problem in Van Slyke. It would not have been possible to predict how the composition of Slyke would interact with any of the compositions described in Luxemburg.

Moreover, it is respectfully submitted that the disclosures in Van Slyke and Luxemburg do not simply provide reservoirs of features that a skilled person would put together in any order and in any way. It is submitted that there has to be motivation for a skilled person to combine the features in Van Slyke with features in Luxemburg. It is submitted that a skilled person lacks the requisite motivation to combine the teaching in Van Slyke with that of Luxemburg, as asserted by the Examiner.

Accordingly, for at least these reasons, it is respectfully submitted that independent claim 1, along with claims 2-15 and 17-32 that dependent therefrom, is now in condition for allowance.

Newly added **Independent claim 36** recites a method of cleaning a contaminated material that comprises a solid material contaminated with a hydrocarbon. The method includes the steps of: (A) contacting the contaminated material with a surface active agent to form a first mixture including the contaminated material and the surface active agent; (B) contacting the first mixture with a carrier formulation to prepare a second mixture wherein the carrier formulation is

arranged to interact with at least one of the surface active agent and the hydrocarbon, and the carrier formulation comprises a polyvinyl alcohol having a molecular weight (Mn) of at least 10,000 and less than 500,000 and greater than 65% of vinyl alcohol moieties; and (C) separating the solid material in the second mixture from other components in the second mixture, wherein the solid material that is separated contains a lower level of the hydrocarbon compared to that in the contaminated material contacted in step (A). This newly added claim is based on page 5, line 30, page 13, line 32 and page 40, line 14 of the specification.

Applicant submits that independent claim 36 is novel and unobvious because it further particularizes the carrier formulation and states that it comprises polyvinylalcohol having a specified molecular weight and a specific level of hydrolysis (the level of vinylalcohol moieties). It is not obvious to provide a two-stage process as described in accordance with the claim. Additionally, none of the cited references discloses a relevant process with the specified polyvinylalcohol.

Additionally, regarding newly added **Independent claim 37**, a particular type of surface active agent is claimed as being an anionic surfactant. Support for this claim can be found on page 5, line 30, page 13, line 32, page 40, line 14, and also in claim 9. Applicant submits that there is no motivation or suggestion in Van Slyke to select a specific surfactant and combine it with a specific polyvinylalcohol as described in claim 37.

Accordingly, Applicant asserts that newly added independent claims 36 and 37 are both novel and unobvious over the cited references.

# **CONCLUSION**

For the reasons detailed above, it is respectfully submitted all claims remaining in the application (Claims 1-15, 17-32 and 36-37) are now in condition for allowance.

Respectfully submitted,

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11/11/19 Date

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